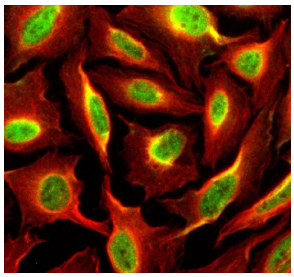
SIPA1 Antibody / Signal-induced proliferation-associated 1 (FY12879)

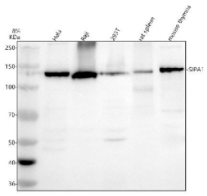
Catalog No.	Formulation	Size
FY12879	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

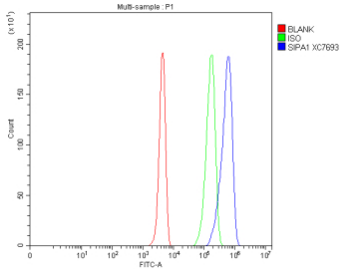
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q96FS4
Localization	Nuclear, Perinuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SIPA1 antibody is available for research use only.



Immunofluorescent staining of SIPA1 using anti-SIPA1 antibody (green) and anti-Beta Tubulin antibody (red). SIPA1 was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-SIPA1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of SIPA1 using anti-SIPA1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human Raji whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: rat spleen tissue lysates, Lane 5: mouse thymus tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SIPA1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. SIPA1 western blot shows a predominant band at ~130 kDa. Although the predicted mass is ~112 kDa, SIPA1 commonly migrates at ~125-135 kDa due to anomalous mobility and phosphorylation, consistent with the observed band.



Flow Cytometry analysis of 293T cells using anti-SIPA1 antibody. Overlay histogram showing 293T cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SIPA1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

SIPA1 antibody detects Signal-induced proliferation-associated 1, a Rap GTPase-activating protein (GAP) involved in cell adhesion, migration, and cell cycle progression. Encoded by the SIPA1 gene on chromosome 11q13.1, this signaling molecule terminates Ras-related protein Rap1 and Rap2 signaling by accelerating GTP hydrolysis, thereby modulating integrin-mediated adhesion and mitogenic responses. SIPA1 plays a crucial role in immune cell trafficking, vascular remodeling, and tumor metastasis suppression.

Structurally, SIPA1 contains an N-terminal RapGAP domain responsible for GTPase activation, a PDZ domain that mediates protein-protein interactions, and a C-terminal coiled-coil domain that regulates subcellular localization. It is predominantly localized to the cytoplasm and nucleus, where it integrates extracellular growth and adhesion cues with downstream transcriptional and cytoskeletal responses. SIPA1 interacts with integrins and focal adhesion components, influencing adhesion turnover and migration.

The SIPA1 antibody is widely used in cell signaling, oncology, and vascular biology research to study Rap GTPase regulation, adhesion signaling, and cancer cell dissemination. Western blot analysis detects a 120 kilodalton band corresponding to SIPA1, while immunofluorescence shows cytoplasmic and nuclear staining in epithelial and immune cells. This antibody enables characterization of Rap1 deactivation and adhesion dynamics under physiological and pathological conditions.

Functionally, SIPA1 acts as a metastasis suppressor by downregulating integrin signaling and preventing excessive adhesion and proliferation. Reduced expression or loss of SIPA1 disrupts Rap1 regulation, leading to enhanced cell spreading, migration, and metastasis formation in several cancers. In immune cells, SIPA1 modulates adhesion to vascular endothelium and migration across tissue barriers, linking Rap signaling to immune surveillance and inflammation. The SIPA1 antibody supports studies aimed at understanding how RapGAP activity integrates with cytoskeletal and transcriptional control mechanisms. NSJ Bioreagents validates this antibody for its applications, ensuring high-quality and consistent performance for signaling and adhesion studies.

Application Notes

Optimal dilution of the SIPA1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SIPA1 recombinant protein (Position: D21-L1034) was used as the immunogen for the SIPA1 antibody.

Storage

After reconstitution, the SIPA1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.